Broadband Planning Map Application

Help Documentation

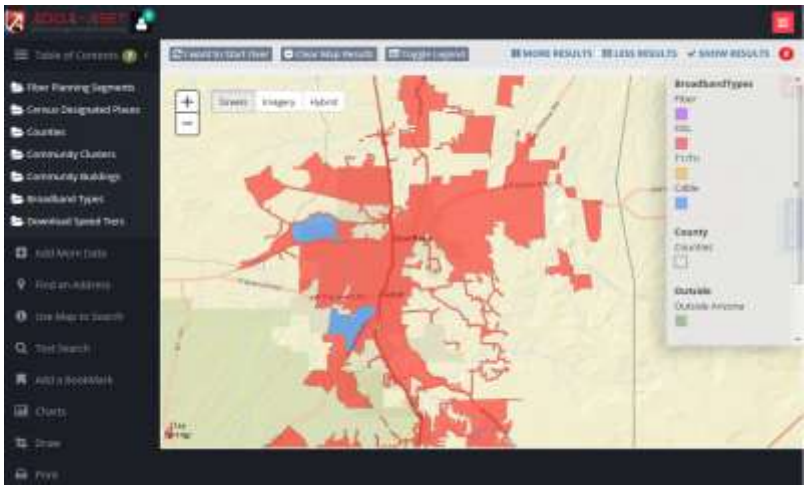


Table of Contents

Introduction

Welcome to the Broadband Planning Map Application. This application has a large collection of map layers with a rich set of spatial analysis tools to help community planners make better broadband decisions for their community. The central idea behind this application is to present a set of tools that will help planners identify their study area, find combinations of Broadband Providers, Service Types and Advertised Download/Upload speeds, and quickly chart out the Population and Housing data showing the number of people, average median age, households, average household size, total area, etc.

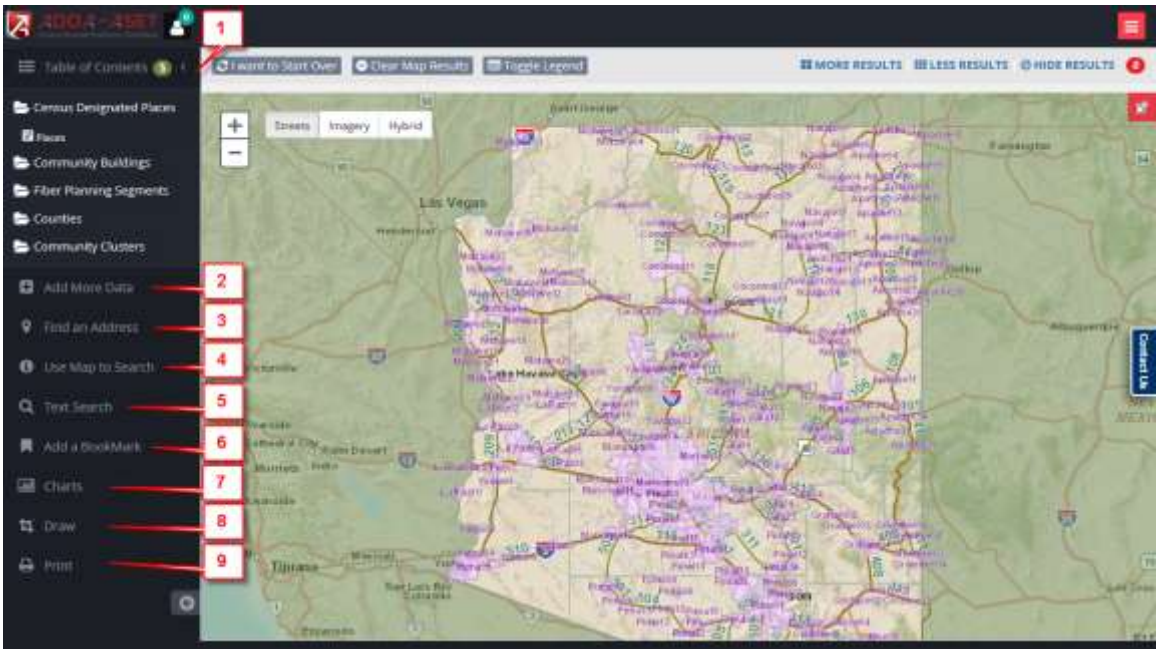
What makes the Broadband Planning Map Application unique is the power and flexibility it gives users to perform Spatial Analysis. For example, users can perform a Spatial Search to find all the Libraries within a specific ZIP code. Subsequently, a 2-mile buffer can be drawn around a Library to find all the public schools that fall within this 2-mile radius. The Advertised Upload and Download Broadband Speeds and Service Types to these schools can be instantly charted. Further, all the Census Blocks falling within this 2-mile buffer can be selected and their attributes can be exported to a spreadsheet. Users can easily determine the number of people living within 2 miles of a Library; find their average median age, the total number of households, etc.

All of Arizona's Broadband Providers and their associated metrics can be easily viewed and the results saved as an Excel file for further analysis. A Community Planner can readily measure the area and perimeter of their community, find the distance from the nearest Central Office or a major road or highway, and quickly view the broadband footprints of every provider in the vicinity.

The Broadband Mapping Application was developed by the Arizona Strategic Enterprise Technology Office (ASET) and ASU's Institute for Social Science Research. Broadband service availability and access information is derived using data assembled by the Arizona Broadband Project from information submitted biannually by broadband service providers in the State and publicly available sources.

Overview

This application has a large collection of map layers with a rich set of spatial analysis tools to help community planners make better broadband decisions for their community. This section provides a quick overview of the tools. For more specific instructions on how to use each tool, please refer to each tool's individual section.
When the application first opens there are 5 sets of data already loaded into the map. You can determine which data are in the map by looking at the Table of Contents (marked "1" in the image below). To add more data to the map, click on the "Add More Data" tool (marked "2"). To locate a place on the map (either by address or business name), click on the "Find an Address" tool (marked "3"). To identify or select things on the map (either by interacting with the map or searching the tabular information), click on either the "Use Map to Search" tool or the "Text Search" tool (marked "4" and "5"). To bookmark an area on the map so that you can go back to that area in the future, click on the "Add a BookMark" tool (marked "6"). To create a chart showing data from the map, click on the "Charts" tool (marked "7"). To add shapes or text to the map, click on the "Draw" tool (marked "8"). To print the map, click on the "Print" tool (marked "9").
Use the "Contact Us" button on the right hand side of the map to contact us with any questions or comments.



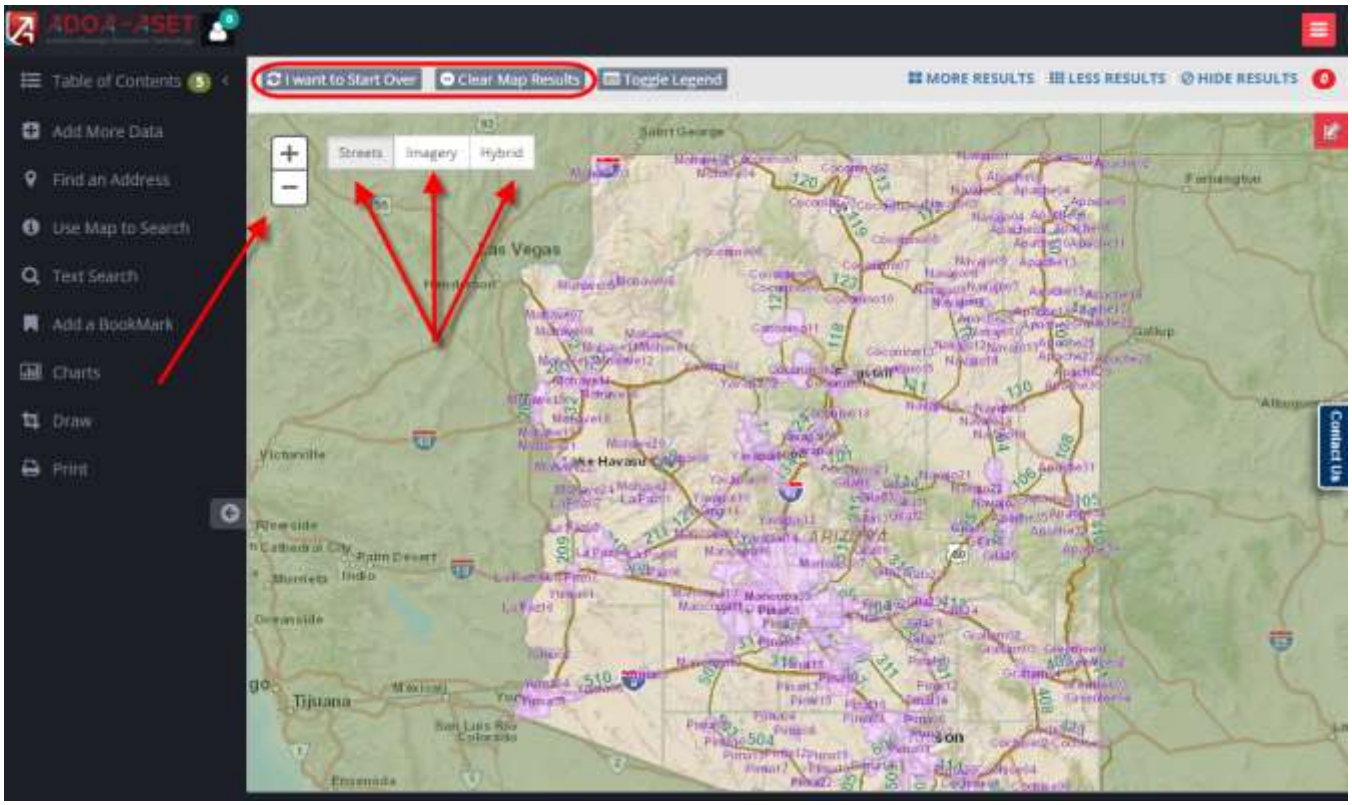
Tools/Functions

Getting around the map

The Broadband Planning Map Application uses many of the same mapping functions utilized in other web maps. You can zoom in and out by using the + and – buttons on the top left portion of the map. Or, you can hold down the shift button and draw a box on part of the map to zoom to that specific area. By default a street map of Arizona is the background of the map, but you can easily change that by clicking on either the Imagery or Hybrid buttons.

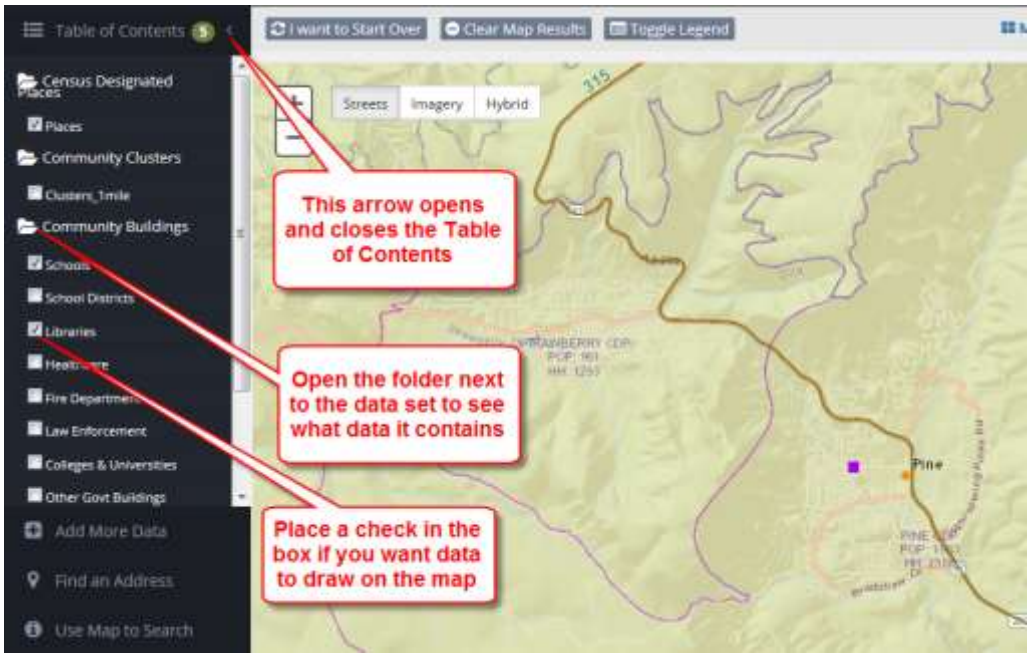
Many people will select features (such as schools or cities) when they use this application. If at any time you want to clear all of your selections from the map, simply click the “Clear Map Results” button.

If you find that you have done so many things to the map that it would be easier to start from the beginning, click on the “I want to Start Over” button.



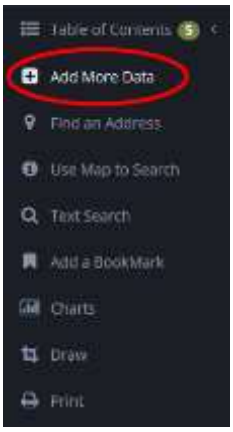
Data on the map (aka Table of Contents and Legend)

When the application first opens there are 5 sets of data already loaded into the map: Census Designated Places, Community Buildings, Fiber Planning Segments, Counties and Community Clusters. To see information about the features that are drawing on the map, click on the arrow next to the Table of Contents. Some data folders contain one set of features on the map. For instance, if you open the Census Designated Places folder (open it by clicking on the folder next to the name), you see it only contains census designated places. However, some data folders have many sets of features. If you open the Community Buildings folder, you can see that there are many different types of buildings that you can choose to map. To make data draw on the map simply click on the box next to the name of the thing you want to draw.



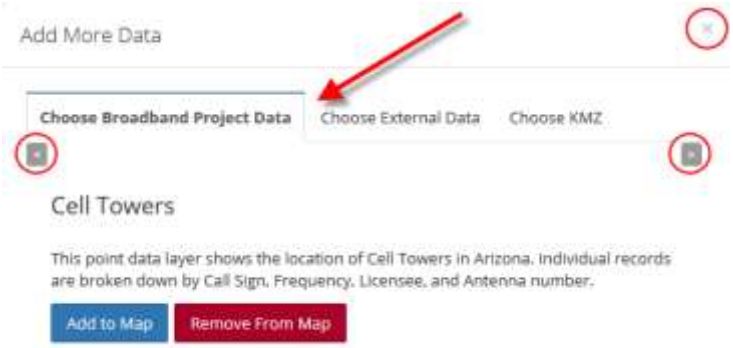
The legend explains how the data is symbolized on the map.

Adding more data to the map

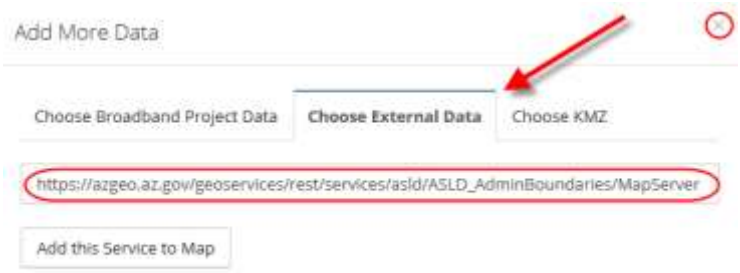


If the data that you want to see is not on the map, you can add more data to the map by clicking on the "Add More Data" button. Once you click the "Add More Data" button, you will get a window that allows you to add data in one of three different ways: add data that is currently available to Broadband Planning Map Tool users, add data that is available as an external map service, or add data from a KMZ/KML file. Once you add data using one of the three methods, it will appear in the Table of Contents.

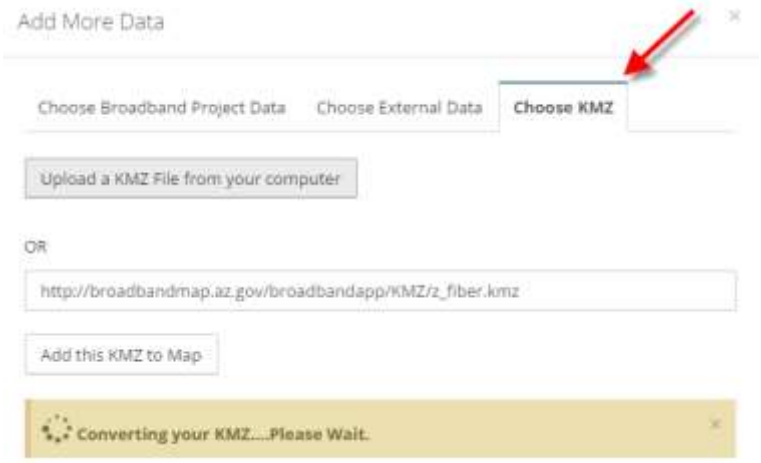
There are many additional data layers available to Broadband application users. To see what data is available and add it to the map, use the leftmost tab of the "Add More Data" window and scroll through the different data layer choices using the arrow buttons on either side of the window. When you find a data layer you want to add, click the "Add to Map" button. If you want to remove data from the map, you would click the "Remove From Map" button. The menu will stay open until you click the "X" in the top right corner of the window.



To add data from an external map service, use the middle tab of the "Add More Data" window. Type the address of the external map service you want to add and then click the "Add this Service to Map" button. In the image below, the address of a trails map service (provided by AZGEO) has been added. The menu will stay open until you click the "X" in the top right corner of the window.

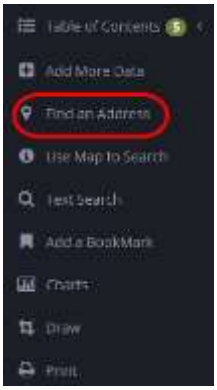


To add a kmz or kml file to the map, use the rightmost tab of the “Add More Data” window. When you click on the “Upload a KMZ file from your computer” button a new window will open and ask you to browse to the location of the file and click the “Upload the file” button. Once you click the “Upload the file” button you will get a message telling you the file is being converted and then the data will add to your map and the window will disappear.



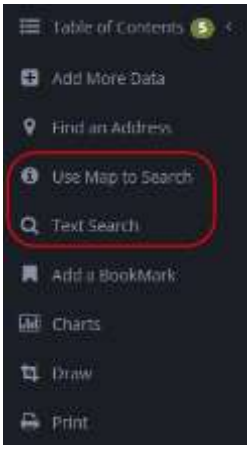
Going to an address

To locate a place on the map (either by address or business name), click on the “Find an Address” tool. A window will pop up and you can type the address you want to find.



As you type the address the tool will start listing similar addresses and you can pick from the dropdown list. When you are finished typing your address click on the magnifying glass and the map will zoom to your selected location and place a red circle on the address.

Selecting things on the map



You can identify or select things on the map either by interacting with the map or searching the tabular information. Each option is discussed below.

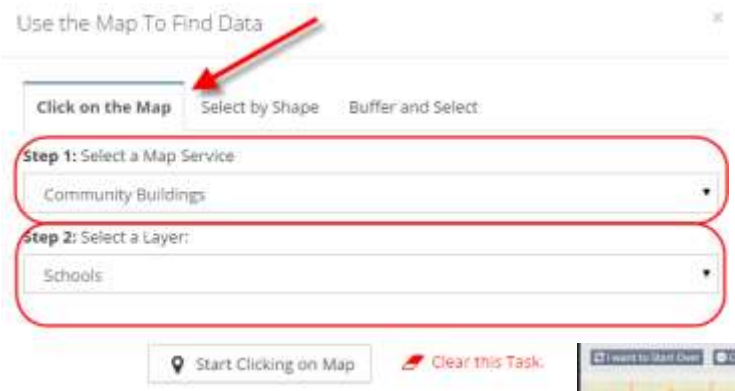
Use Map to Search

If you want to identify or select things by clicking on the map, use the "Use Map to Search" tool.

Identify Features on the Map - To identify something on the map, use the leftmost tab on the "Use the Map to Find Data" window.

Example: If you want to identify schools, then your "Select Layer" must be set to schools. (If you want to select libraries, then your "Select Layer" would be set to libraries.) Once you have selected the data layer that you want to identify, click the "Start Clicking on Map" button and the menu will disappear allowing you to click on features and see the associated tabular information along the bottom of the application.

Please note that data is added to the Broadband Mapping application in sets of data called services. Each service is a collection of different sets of data. If you do not see the data layer you want to identify in your "Select a Layer" dropdown list, then try picking a different service from the "Select a Map Service" dropdown list.



Select Features on the Map

To select features on the map by drawing a shape on the map, use the middle tab on the “Use the Map to Find Data” window.

Example: If you want to select all schools in a particular area, then set the “Select Layer” option to schools. (If you want to select libraries, then your “Select Layer” would be set to libraries.) Next, you need to choose the type of shape you are going to draw. Once you select the type of shape you want to draw, the “Use the Map To Find Data” window will disappear and you can draw your shape on the map. When you are finished drawing your shape, the “Use the Map To Find Data” window will reappear and you will need to click on the “Get my Results” button. The window will then disappear, the map will show your selected features along with the shape you drew, and you will be able to see the tabular information for your selected features along the bottom of the application.

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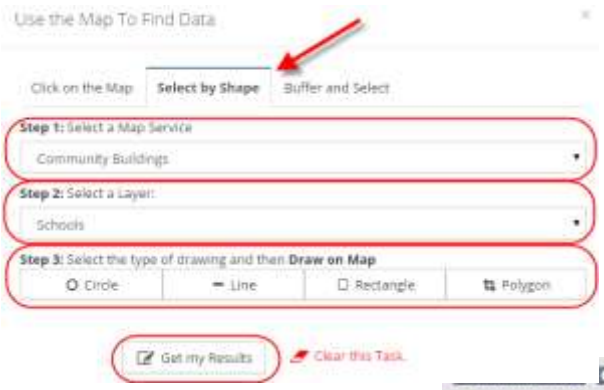

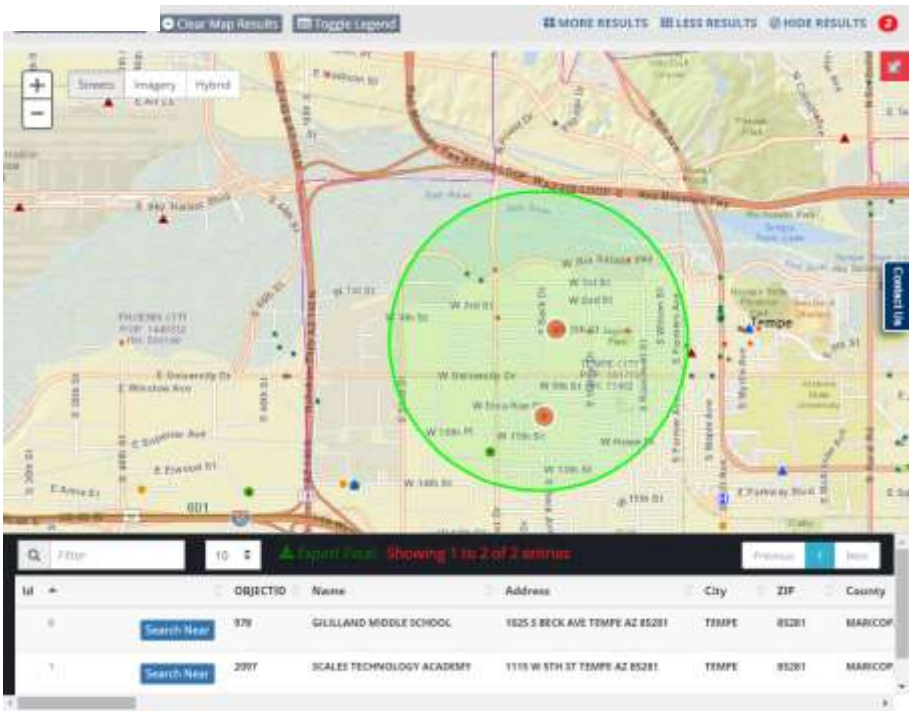

Buffer a Shape and Select Features on the Map

To select features on the map by drawing a shape on the map and buffering that shape, use the rightmost tab on the "Use the Map to Find Data" window.

Example: If you want to select all schools in an area, then set the "Select Layer" option to schools. (If you want to select libraries, then your "Select Layer" would be set to libraries.) Next, you need to tell the computer how much to buffer the shape by and then choose the type of shape you are going to draw. Once you select the type of shape you want to draw, the "Use the Map To Find Data" window will disappear and you can draw your shape on the map. When you are finished drawing your shape, the "Use the Map To Find Data" window will reappear and you will need to click on the "Get my Results" button. The window will disappear, the map will show your selected features along with the shape you drew and the buffered area, and you will be able to see the tabular information for your selected features along the bottom of the application.

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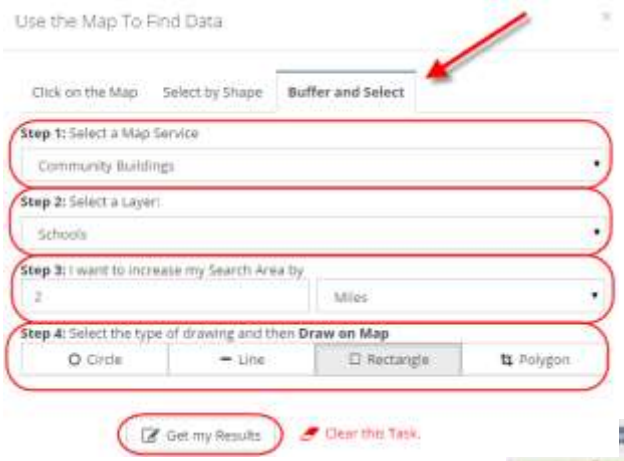
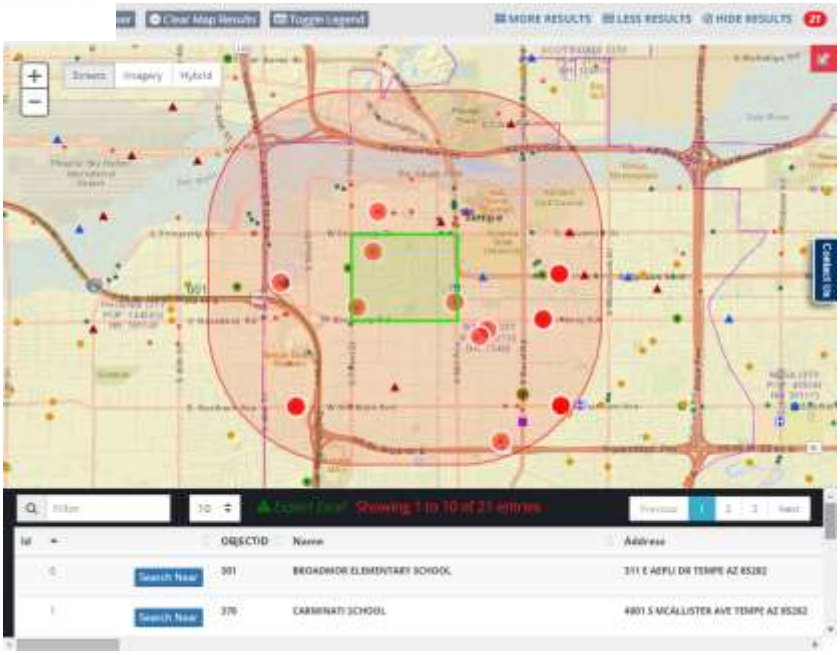




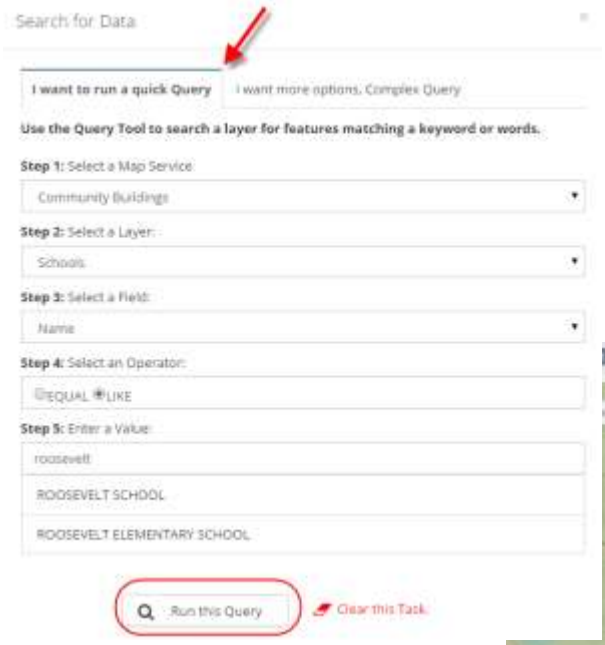
Use Text to Search (e.g. search for a particular place)

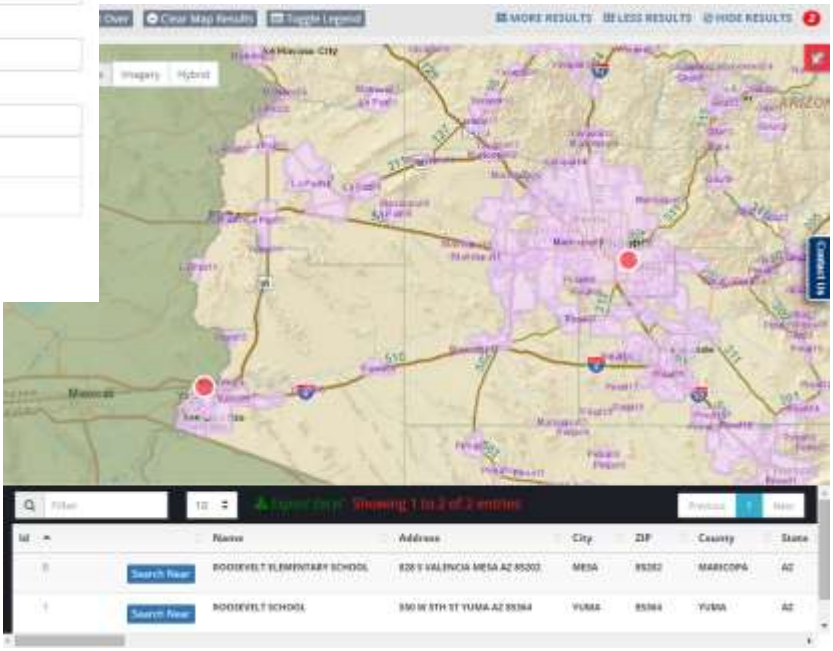
If you want to select a place by name, click the “Text Search” tool.

Quick Text Query – To search for a place based on information in the table (such as the name of a school or the city in which a school resides) use the leftmost tab on the “Search for Data” window.

Example: If you want to find a school by name, your “Select Layer” must be set to schools. Next, select the field in the table that would have the information you want to see (in this case it would be “Name”). Next type the name of the school that you want to select. If you want to find a particular school, you can select from the dropdown list that appears when you type. If you want to select all schools with a particular word in the name (e.g. Roosevelt) then just type the one word you want (e.g. “Roosevelt). Finally, click on the “Run this Query” button. The “Search for Data” window will disappear and any features that meet your selection criteria will be selected on the map and the tabular information will appear along the bottom of the application.

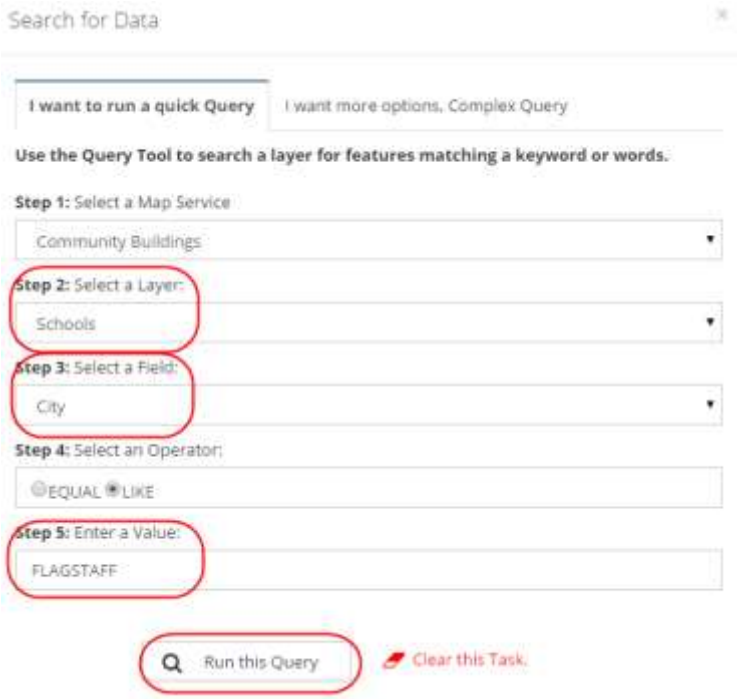
Please note that data is added to the Broadband Mapping application in sets of data called services. Each service is a collection of different sets of data. If you do not see the data layer you want to identify in your “Select a Layer” dropdown list, then try picking a different service from the “Select a Map Service” dropdown list.

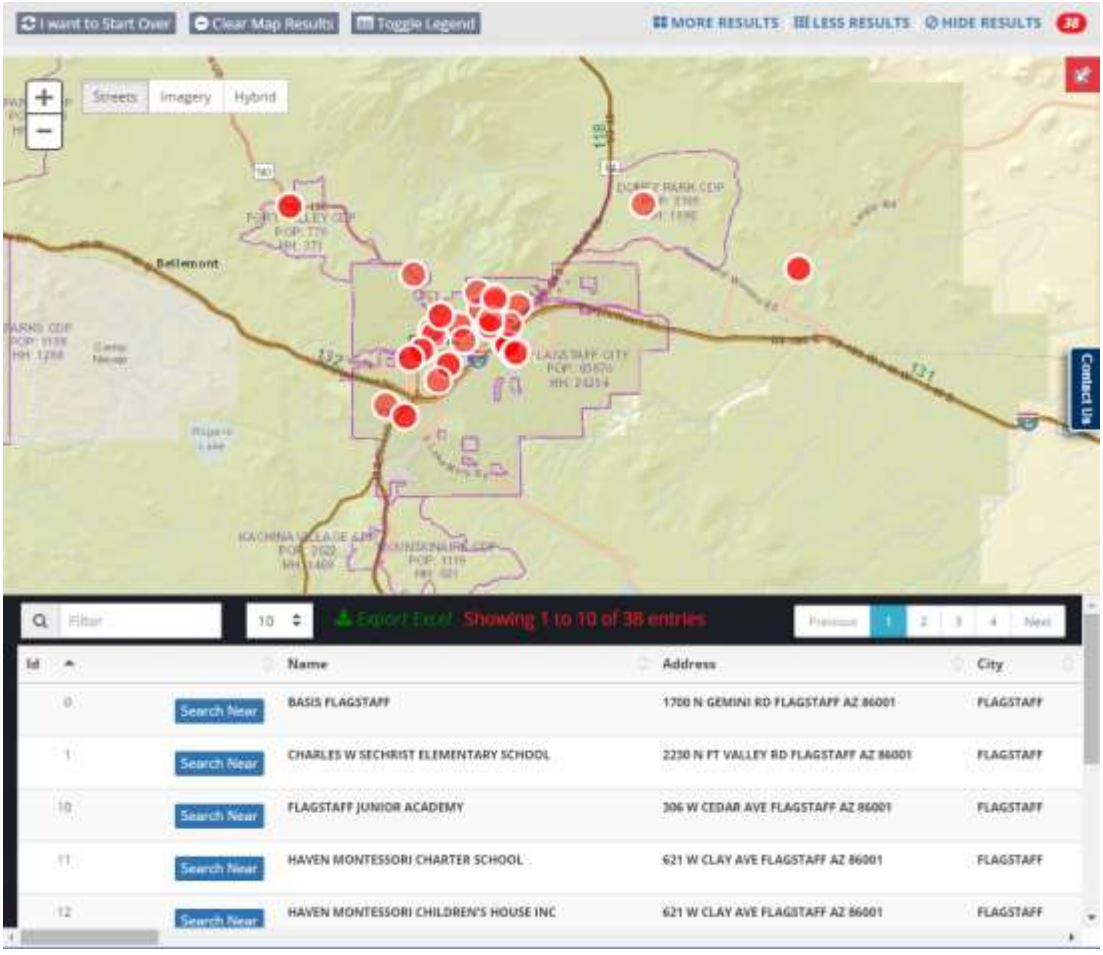




Quick Text Query – Example 2

Select all Schools in the city of Flagstaff.





Complex Text Query

ometimes you want to select features based on multiple fields in the tabular data. For instance, you might want to find all of the public schools in Flagstaff. If you want to search for something based on more than one field in the table you would use the rightmost tab of the "Search for Data" window.

Example: If you want to find all public schools in Flagstaff, then the "Select Layer" should be set to schools. Next, select the field in the table that would have some of the information you want to see (in this case it would be "City"). Click the "Add to Query" button, then click the equal sign under Step 4A and then click the city you want. This information will appear in step 5 of the window and you have set up half of the complex query. Next, you need to set up the second half of the query. Click the "AND" button under Step 4A. This tells the query to look for schools in Flagstaff AND public schools. Next, select the other field in the table that has the information you want to see (in this case it would be "Category"). Click the "Add to Query" button, then click the equal sign under Step 4A and then click the category you want. The statement in step 5 of the window is now complete and you can run your complex query by clicking on the "Run this Query" button. The "Search for Data" window will disappear and any features that meet your selection criteria will be selected on the map and the tabular information will appear along the bottom of the application.

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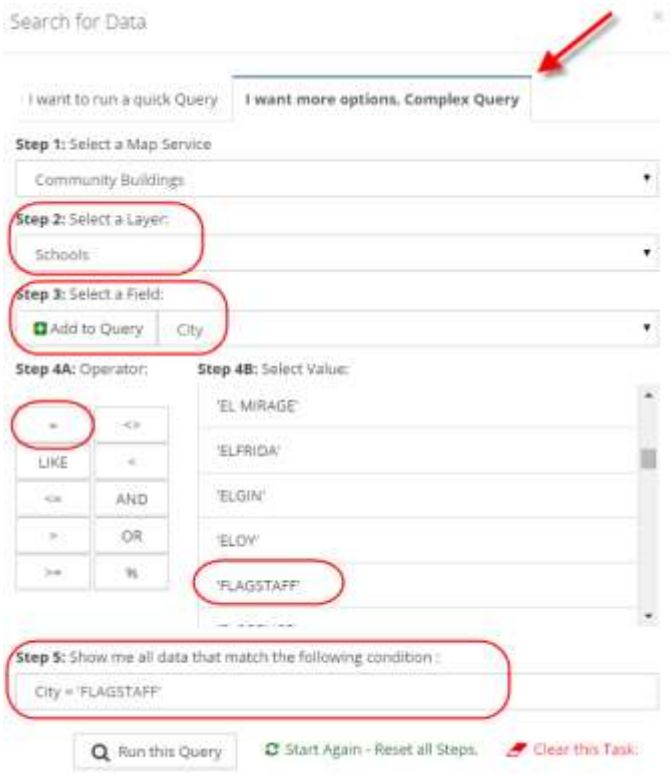
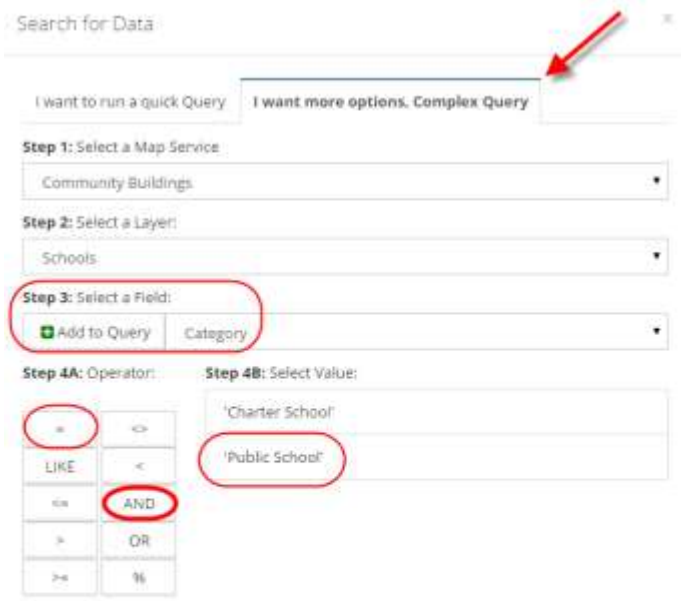
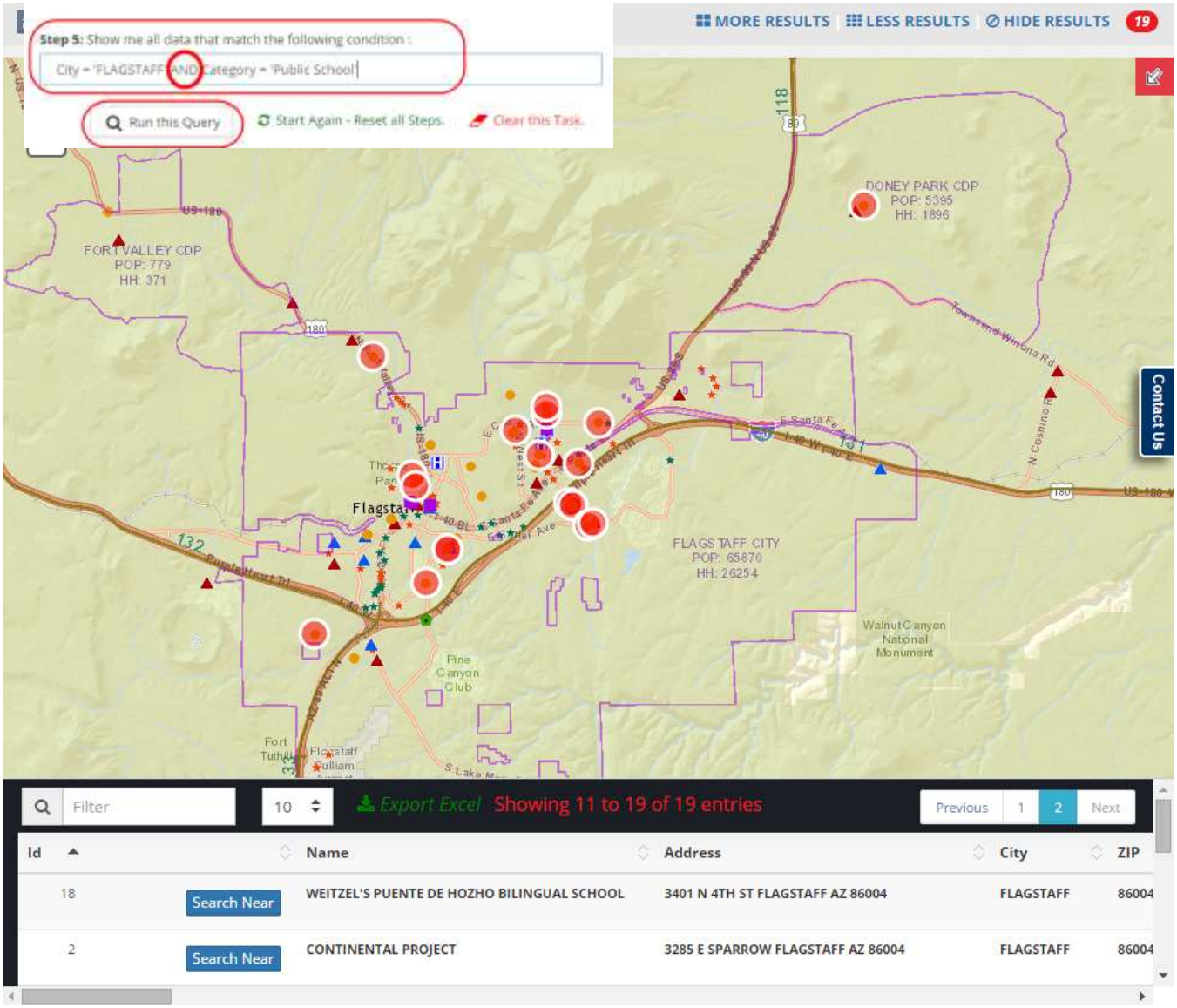
First half of complex query



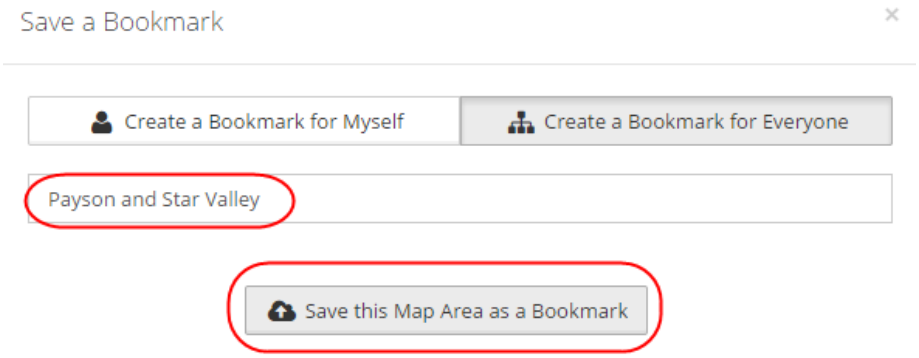


Second half of complex query

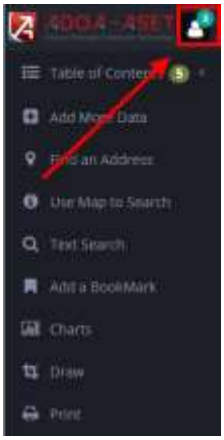


Bookmarking an area on the map

To bookmark an area on the map so that you can go back to that area in the future, click the “Add a BookMark” tool. This tool will allow you to add a bookmark that you can see or you can add one to share with any Broadband user. Simply pick the sharing option, give the bookmark a title, and then click the “Save this Map Area as a Bookmark” button.

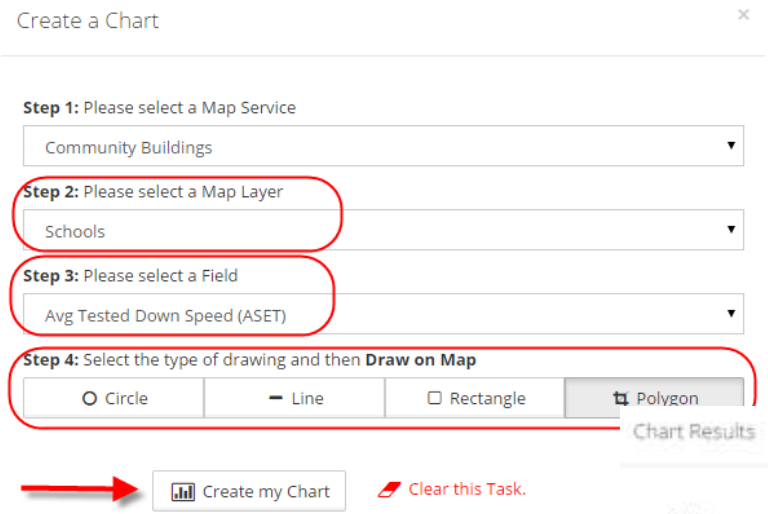


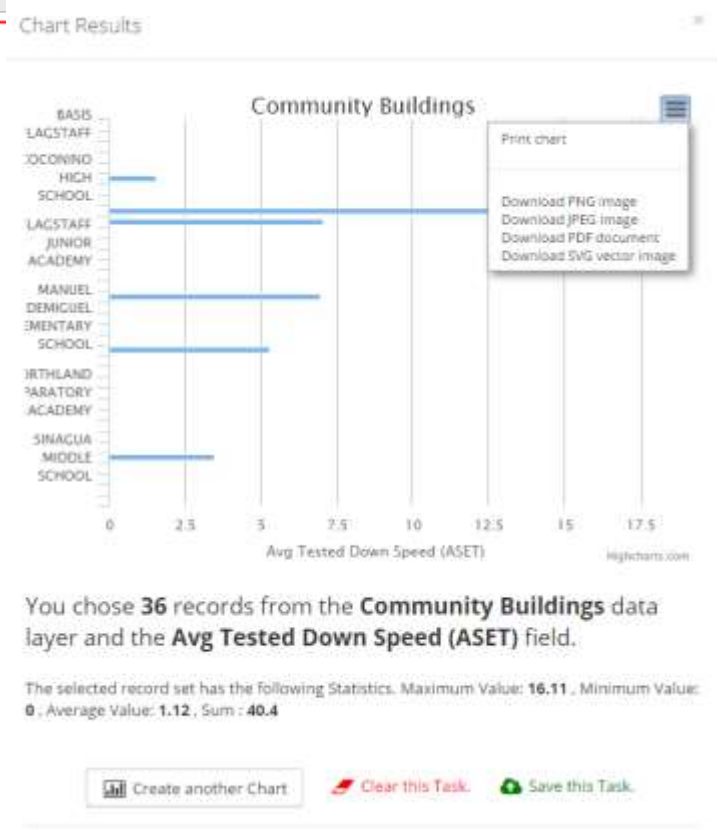
To access bookmarks, click on the icon on the top left of the mapping application. A window will open which allows you to view all of the bookmarks (yours and shared). If you click on the “Zoom” button the map will zoom you to the area that was bookmarked. If you click the “Do More” button you can search for features within the bookmarked area or you can buffer the bookmarked area and search for features in that buffer. If you choose to search for features in a bookmarked area, you will need to interact with the “Use Map to Search” tools. Please see that section for explanations on how to use those tools.



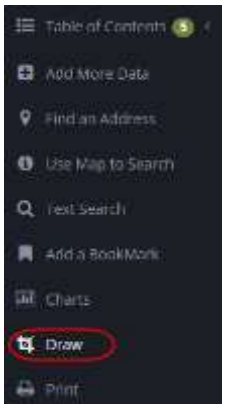
Charting the data

To create a chart showing data from the map, you use the “Charts” tool. First, zoom to the area containing the features you want to chart. For instance, to see a chart of download speeds for schools in Flagstaff, first zoom to Flagstaff. Then, click on the “Charts” tool. Select the data layer (e.g. schools) and field (e.g. download speed) that you would like to chart. Then pick the type of shape you will use to select features on the map. Once you select the shape type, the “Create a Chart” window will disappear and you will need to draw your shape on the map. After you have drawn your shape, the “Create a Chart” window will reappear and you should click “Create my Chart” to see the chart.

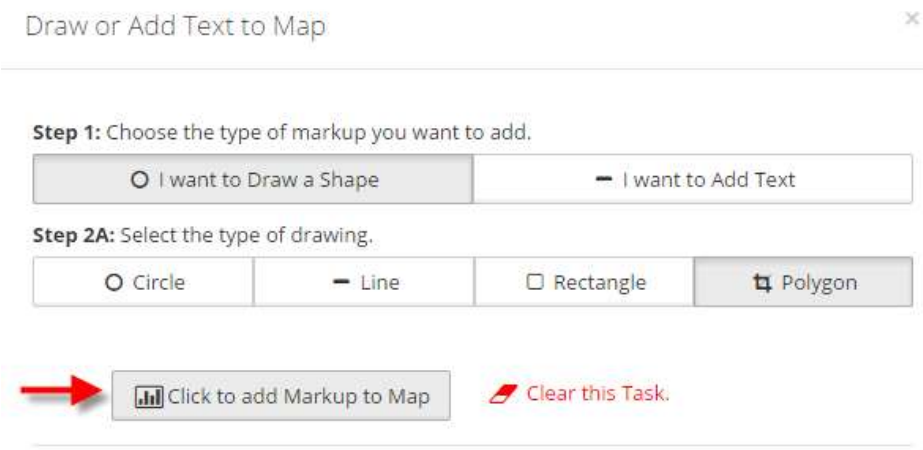


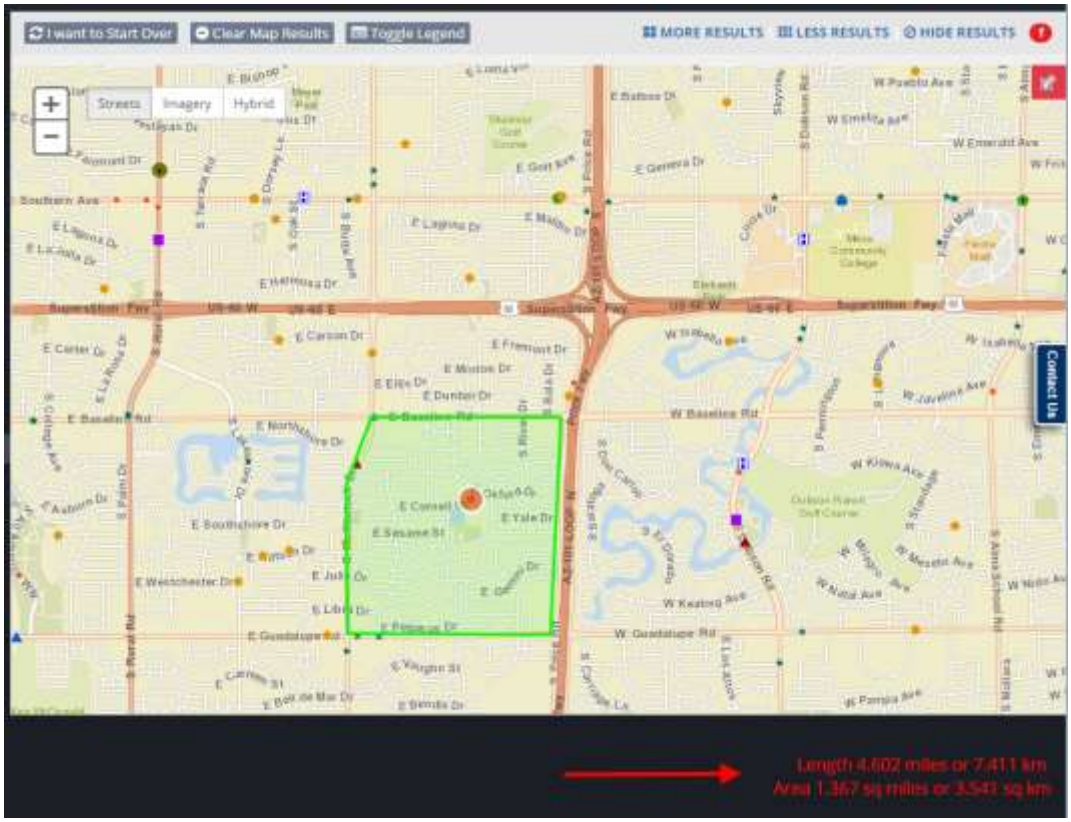


Drawing on the map

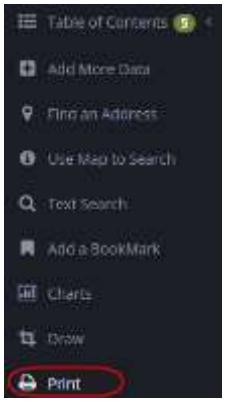


Click on the “Draw” button to open the menu which will allow you to add text or shapes to the map, Once you have chosen what you want to add, click on the “Click to add Markup to Map” button and click on the location on the map where you want to add your drawing. When you draw a shape on the map, that shape’s length/perimeter and area will be displayed on the bottom right area of the map.

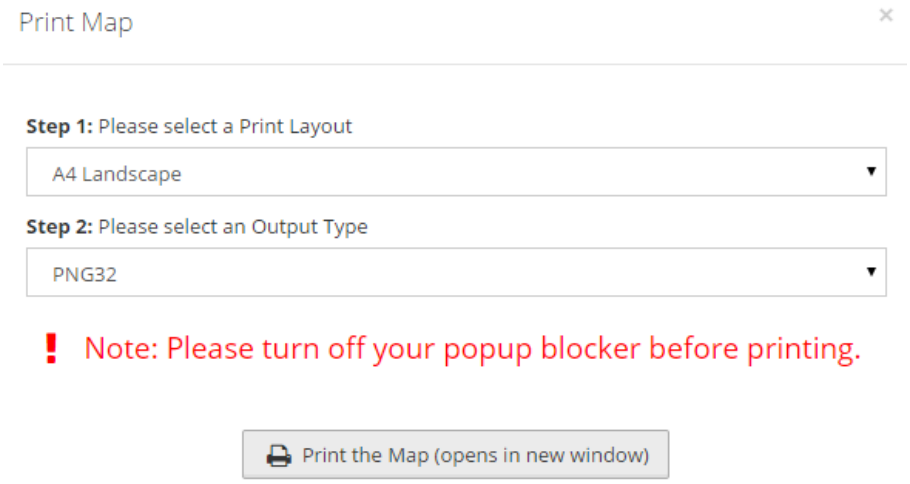




Printing the map

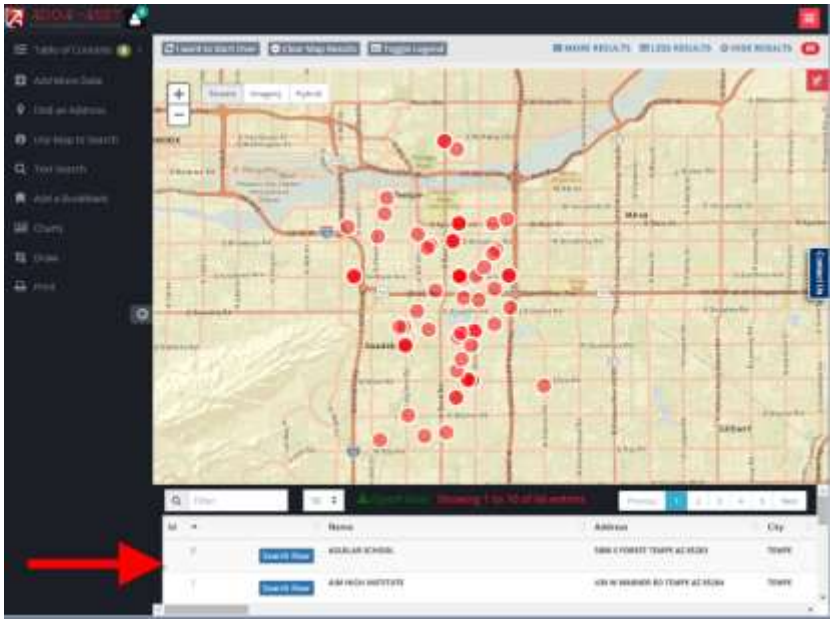


Click on the “Print” button to print the map to a digital file. You can select the print layout and the type of digital file you would like to print to (pdf, png8, png32, gif, jpg). Please be sure to turn off your popup blocker before you print!!

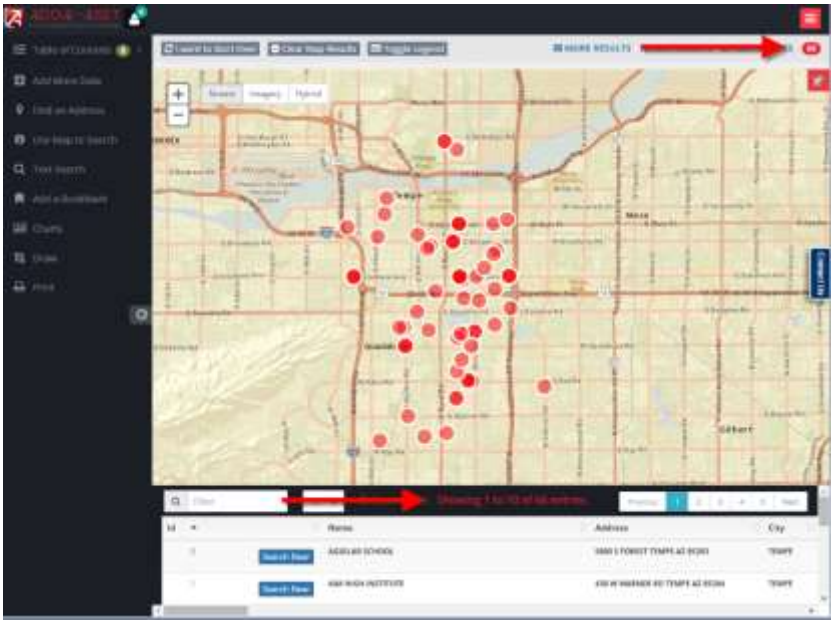


Viewing tabular information

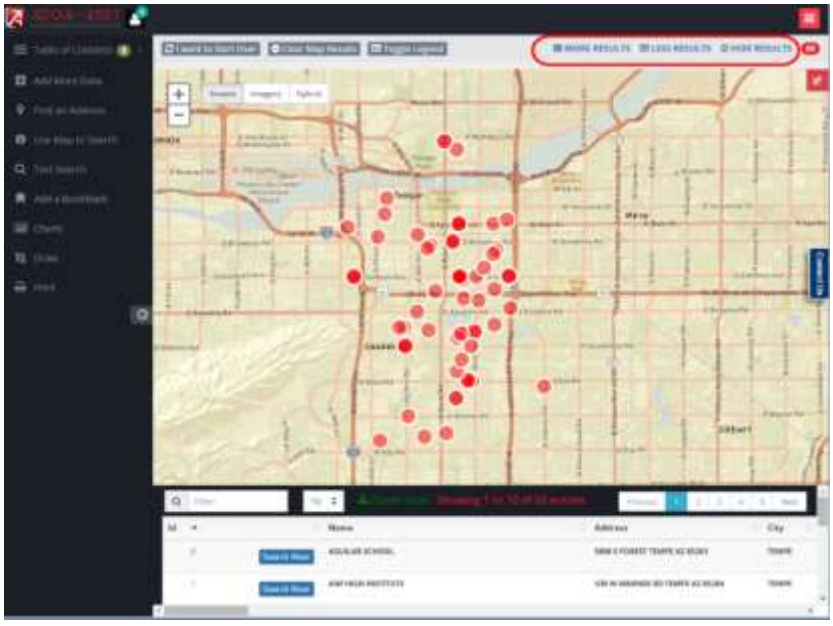
When you identify or select features on the map, the tabular information for those features will appear in a table at the bottom of the window. You can interact with the table in a variety of ways.



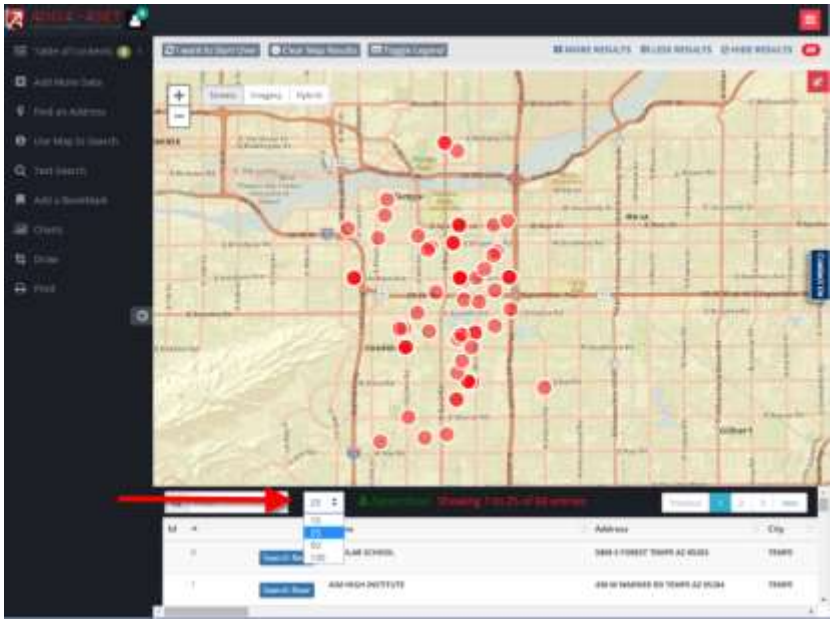
To see how many records were selected, you can look at the number at the top right of the application or the number above the table.



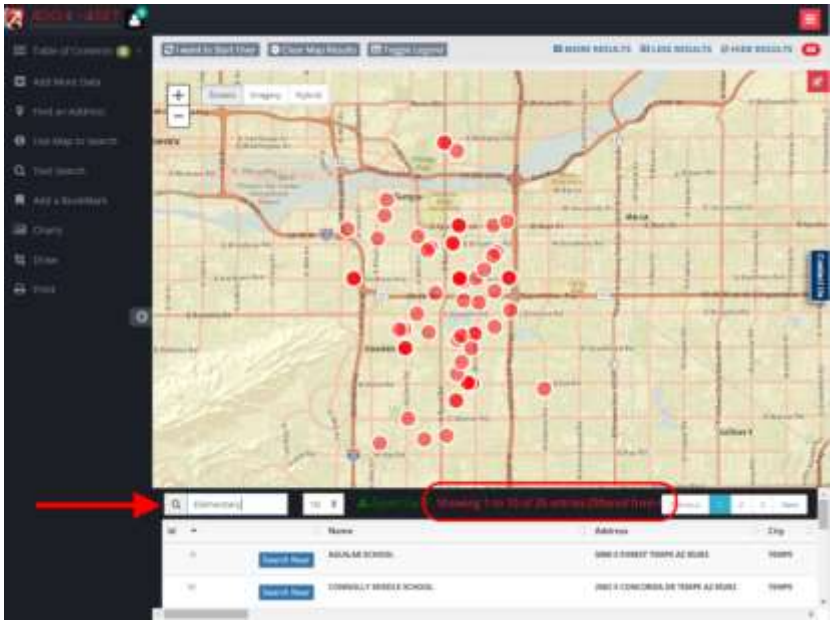
To see more of the table, less of the table, or hide the table completely, use the buttons at the top right of the application.



To change the number of records on a page, use the drop down menu above the table.



To filter the table (for instance only see the elementary schools in Tempe), use the filter option. To remove the filter, simply delete what you wrote in the filter box.



To filter individual fields, scroll to the bottom of the table and select a value.

To sort on a field, use the arrows at the top of that field.

To export a table, use the Export Excel button.

To search within or near a record in the table, use the “Search Near” button. Once you click on the “Search Near” button, you will interact with the “Use Map to Search” tools. Please refer to that section for explanations on how to use those tools.